

## **ABSTRACT**

**[69]** Systems and methods that reduce phase noise are provided. In one embodiment, a method may include one or more of the following: generating a signal at a particular frequency in which the signal may be associated with a harmonic frequency signal disposed at a harmonic frequency; and selectively attenuating frequency content disposed in a region around the harmonic frequency. The signal may be associated with a second harmonic frequency signal disposed at a second harmonic frequency. Frequency content disposed in a second region around the second harmonic frequency may be selectively attenuated. One or more non-linear operations may be applied to the signal and the applied signal may be transmitted.